

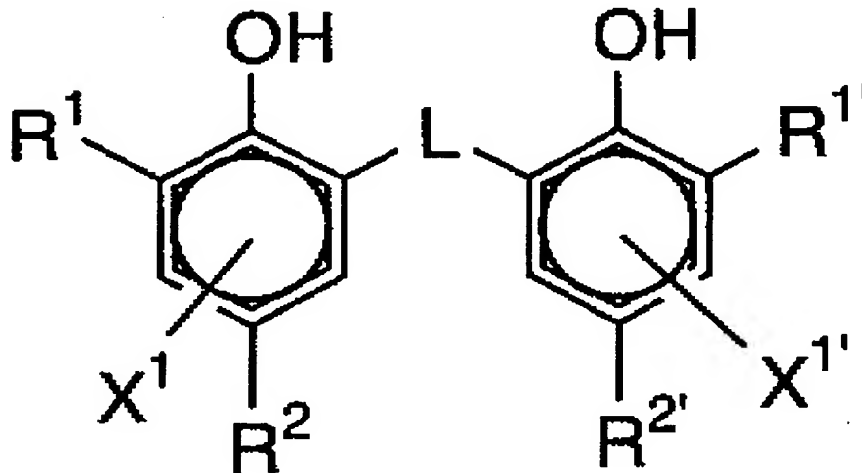
Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. A photothermographic material comprising a photosensitive silver halide, a non-photosensitive organic silver salt, a reducing agent, and a binder on at least one surface of a support, wherein silver iodide is contained in the photosensitive silver halide in an amount of 40 % to 100 % by mole, and the reducing agent contains a compound represented by the following formula (R-1):

Formula (R-1)

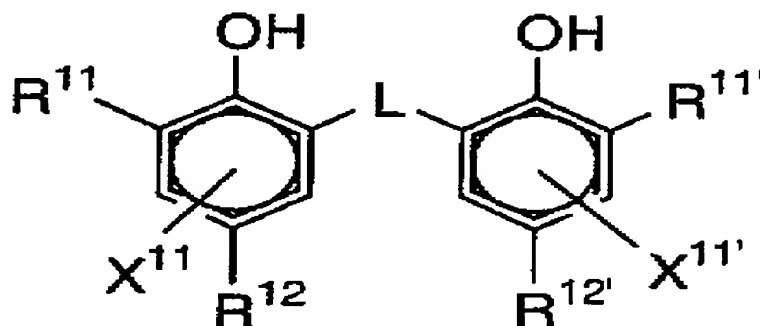


wherein R¹ and R¹['] each independently represent an alkyl group having 3 to 20 carbon atoms, in which a carbon atom bonding to the benzene ring is secondary or tertiary; R²

and $R^{2'}$ each represent a methyl group; L represents an $-S-$ group or a $-CHR^3-$ group, in which R^3 represents a hydrogen atom or an alkyl group having 1 to 20 carbon atoms; and X^1 and $X^{1'}$ each independently represent a hydrogen atom or a group capable of being substituted on the benzene ring; and

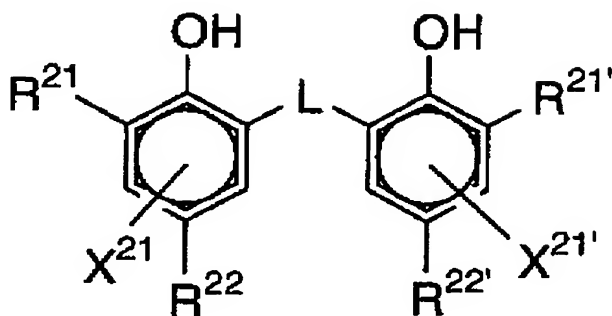
the reducing agent includes a second compound selected from formula (R-2) or from formula (R-3)

Formula (R-2)



wherein R^{11} and $R^{11'}$ each independently represent an alkyl group having 3 to 20 carbon atoms, in which a carbon atom bonding to the benzene ring is secondary or tertiary; R^{12} and $R^{12'}$ each independently represent an alkyl group having 2 to 20 carbon atoms; L represents an $-S-$ group or a $-CHR^{13}-$ group, in which R^{13} represents a hydrogen atom or an alkyl group having 1 to 20 carbon atoms; and X^{11} and $X^{11'}$ each independently represent a hydrogen atom or a group capable of being substituted on the benzene ring;

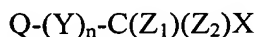
Formula (R-3)



wherein R²¹ and R^{21'} each independently represent a methyl group or an alkyl group having 2 to 20 carbon atoms, in which a carbon atom bonding to the benzene ring is primary; R²² and R^{22'} each independently represent an alkyl group having 1 to 20 carbon atoms; L represents an -S- group or a -CHR²³- group, in which R²³ represents a hydrogen atom or an alkyl group having 1 to 20 carbon atoms; and X²¹ and X^{21'} each independently represent a hydrogen atom or a group capable of being substituted on the benzene ring.

2. The photothermographic material of claim 1, further comprising a compound represented by the following formula (H):

Formula (H)



wherein Q represents an alkyl group, an aryl group, or a heterocyclic group; Y represents

a divalent connecting group; n represents 0 or 1; Z₁ and Z₂ each represent a halogen atom; and X represents a hydrogen atom or an electron withdrawing group.

3. The photothermographic material of claim 1, wherein the silver iodide is contained in the photosensitive silver halide in an amount of 90 % to 100 % by mole.

4. The photothermographic material of claim 1, wherein the photosensitive silver halide has a mean grain size of 5 nm to 80 nm.

5. The photothermographic material of claim 1, wherein the photosensitive silver halide has a mean grain size of 5 nm to 40 nm.

6. (cancelled)

7. (cancelled)

8. The photothermographic material of claim 1, which is exposed with laser light.

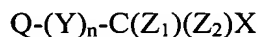
9. The photothermographic material of claim 8, wherein the laser light has a light emission peak intensity in a range of 390 nm to 430 nm.

10. The photothermographic material of claim 1, wherein a characteristic

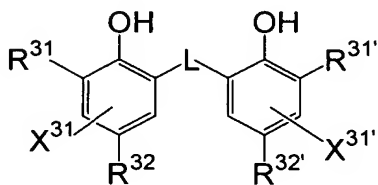
curve of the photothermographic material has a gamma in a range of 2 to 5.

11. A photothermographic material comprising at least one photosensitive silver halide, a non-photosensitive organic silver salt, a reducing agent, and a binder on a surface of a support, wherein silver iodide is contained in the photosensitive silver halide in an amount of 40 % to 100 % by mole, the reducing agent contains a compound represented by the following formula (R-4), and a compound represented by the following formula (H) is contained in the photothermographic material with a molar ratio of the compound represented by formula (H) to the compound represented by formula (R-4) being 0.2 or greater:

Formula (H)



Formula (R-4)



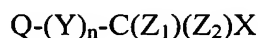
wherein, in formula (H), Q represents an alkyl group, an aryl group, or a heterocyclic group; Y represents a divalent connecting group; n represents 0 or 1; Z₁ and

Z₂ each represent a halogen atom; and X represents a hydrogen atom or an electron withdrawing group, and

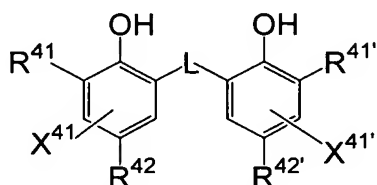
wherein, in formula (R-4), R³¹ and R^{31'} each independently represent an alkyl group having 1 to 20 carbon atoms; R³² and R^{32'} each independently represent an alkyl group having 2 to 20 carbon atoms; L represents an -S- group or a -CHR³³- group, in which R³³ represents a hydrogen atom or an alkyl group having 1 to 20 carbon atoms; and X³¹ and X^{31'} each independently represent a hydrogen atom or a group capable of being substituted on the benzene ring.

12. A photothermographic material comprising at least one photosensitive silver halide, a non-photosensitive organic silver salt, a reducing agent, and a binder on a surface of a support, wherein silver iodide is contained in the photosensitive silver halide in an amount of 40 % to 100 % by mole, the reducing agent contains a compound represented by the following formula (R-5), and a compound represented by the following formula (H) is contained in the photothermographic material with a molar ratio of the compound represented by formula (H) to the compound represented by formula (R-5) being 0.15 or greater:

Formula (H)



Formula (R-5)



wherein, in formula (H), Q represents an alkyl group, an aryl group, or a heterocyclic group; Y represents a divalent connecting group; n represents 0 or 1; Z₁ and Z₂ each represent a halogen atom; and X represents a hydrogen atom or an electron withdrawing group, and

wherein, in formula (R-5), R⁴¹ and R^{41'} each independently represent a methyl group or an alkyl group having 2 to 20 carbon atoms, in which a carbon atom bonding to the benzene ring is primary; R⁴² and R^{42'} each independently represent a hydrogen atom or a group capable of being substituted on the benzene ring; L represents an -S- group or a -CHR⁴³- group, in which R⁴³ represents a hydrogen atom or an alkyl group having 1 to 20 carbon atoms; and X⁴¹ and X^{41'} each independently represent a hydrogen atom or a group capable of being substituted on the benzene ring.

13. The photothermographic material of claim 11, wherein in formula (R-4), R³¹ and R^{31'} each represent a secondary or tertiary alkyl group having 3 to 15 carbon atoms.

14. The photothermographic material of claim 12, wherein in formula (H), Q represents a heterocyclic group containing a nitrogen atom as a ring-constituting atom

U.S. Application Serial No. 10/730,143
Response to Office action of March 23, 2005
and not containing a sulfur atom.

15. The photothermographic material of claim 11, wherein an average content of the silver iodide in the photosensitive silver halide is 90 % to 100 % by mole.

16. The photothermographic material of claim 11, further comprising a development accelerator.

17. The photothermographic material of claim 11, which is exposed with light having a peak intensity in a range of 350 nm to 450 nm at an intensity of illumination of 1 mW/mm² or more.

18. The photothermographic material of claim 11, which is exposed by a semiconductor laser having a light emission peak intensity in a range of 390 nm to 430 nm.

19. The photothermographic material of claim 11, wherein a characteristic curve of the photothermographic material has a gamma in a range of 2 to 5.